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I.

MR. LAWRENCE'S LECTURE ON THE
NATURE, CAUSES AND TREATMENT
OF MORTIFICATION.

MORTIFICATION is the death of a part,—that is, of a part only; the death of a part with a peculiar change of structure in it, the result of a previous and peculiar vital action. By this latter circumstance, mortification is distinguished from simple death,—as in the case of an amputated limb, or from the temporary suspension of vital action, as when parts are frost-bitten; or from putrefaction, which frequently takes place after mortification has occurred, but which is by no means essential to the process; and, indeed, some kinds of mortification are to be considered as complete preservatives against putrefaction. It is also to be distinguished, by the same circumstance, from the chemical decomposition which is produced by heat, or the application of various chemical agents to a part of the body.

Mortification, gangrene, and sphacelus, are terms that are used nearly indiscriminately; yet perhaps there are some shades of difference between them. Mortification is the most general term; gangrene, perhaps, is more particularly employed to denote external superficial mortification; and

the word *sphacelus* is employed in cases of an entire limb, or a considerable portion of a limb, mortifying. We use the words *slough* and *sloughing* as synonymous with those that I have just mentioned; but these terms are English words, derived, according to Horne Tooke, from the Anglo-Saxon. *Sloughing* is equivalent to perishing, and the term *slough* denotes that portion of the body which has perished. Now you recollect that the word *slough*, in common language, is applied to the covering of the snake, which separates annually from the surface of its body; in short, *slough* denotes the portion that has perished, and is thrown off the body.

Mortification consists in a cessation of the living action of the part; or more particularly, we may say, in a cessation of circulation in the part. The consequence of this is, that the part loses its heat, its sensibility, its power of motion, and its natural color; it becomes blue or livid, or brown, or blackish, or assumes various combinations of all these different tints.

When this cessation of vitality has taken place, the part then undergoes spontaneous or chemical change;—the textures that compose it become softened. Very commonly the part, at the time it mortifies, contains an abundance of fluids; all its vessels are replete

with them. Now these fluids, as well as the solid parts which contain them, undergo a chemical change, and the textures of the body become reduced to a pulpy mass that is exceedingly offensive. Gas is disengaged from the parts thus changed. Under other circumstances the part undergoes a change the very reverse of this; for it becomes dry, and shrinks or shrivels up; and instead of putrefying, it passes into a state in which you may preserve it: you may hang it up in the air, and it will keep in this state for years. Now these are two very different changes, both of which are called mortification; but the difference between them cannot escape the notice of the most superficial observer. Hence, from the most ancient times, you find a distinction between the moist or humid gangrene (*gangrena humida*) and the dry gangrene (*gangrena sicca*). These differences are nearly equivalent to the distinction into acute and chronic gangrene, because the humid or moist gangrene is that which takes place from active inflammation leaving the part with all its vessels filled with fluids; while the dry gangrene takes place in a slow and almost imperceptible way. All parts of the body are liable to mortification; I believe we may say *all*, but all are not *equally* liable. The cellular membrane is said to be the most prone to mortification. The skin may, perhaps, come next in order, but is much less liable to it than the cellular membrane. The bloodvessels resist mortification longer than any other texture; and thus, in cases of extensive sloughing, you often find the trunks of large vessels remain unchanged when all the surrounding tissues have perished.

This mention of the resistance of the bloodvessels to the process of mortification, leads me to observe that the blood which is contained in those vessels becomes coagulated in the neighborhood of the mortified part, and even to some distance beyond it; so that when the dead part comes to be separated from the living, there is no loss of blood in consequence of the opening of such vessels. This process of coagulation, in the case where mortification affects the lower portion of a limb, will extend in the main artery very considerably above the part to which the mortification seems to extend externally. This is sometimes witnessed in cases of amputation of the thigh, where, though the mortification has not extended above the knee, the femoral artery has nevertheless been completely plugged up,—filled with coagulated blood, so as not to require a ligature.

The part which has undergone mortification is separated from the sound part of the body by a process which will afterwards be described. I may only mention here that there is a considerable difference in point of the time that is occupied in this separation, in particular cases. You may sometimes find a mortified part separated in a few days; and in other instances the separation will occupy many weeks, or even months; and a similar difference occurs in respect to the time that elapses before the changes that constitute a state of mortification are complete. There is a considerable difference, too, in the constitutional symptoms that are seen in different instances of mortification. In a case of slight mortification of the superficial parts, there are often no constitu-

tional symptoms at all. When mortification is the result of high inflammatory action, there is generally a remission of symptoms on this taking place ;—at the time that mortification occurs, the high febrile disturbance is greatly diminished ; but if the mortification be not very considerable, the local inflammation may go on nearly in the same degree, and there will then be little difference observed in the constitutional symptoms. Where any considerable part of the body has perished, we generally find that constitutional symptoms, of a very marked kind, attend the process. You will have occasion to observe, what we pointed out in speaking of sympathetic inflammation, the conformity between the character of the constitutional disturbance and that of the local disease ; for where a part of the body perishes in this way, you find general symptoms of debility are present,—symptoms approaching very much to typhoid. The pulse is very feeble, intermittent and irregular ; the body is covered with a clammy sweat ;—there is a complete loss of muscular power, sometimes even with syncope ; hiccough takes place ; the alimentary canal becomes distended with gas, approaching to the tympanitic state. In fact, all the circumstances denote the lowest degree of depression in the powers of the system generally.

The causes of mortification are very various : hence the mode of its occurrence, the state of the affected parts, and the whole progress, are very different in different instances. Under the head of causes of mortification, we include a great variety of agencies, which are capable either of suspending

the circulation in a part, or of producing such violent disorder in the circulation as leads to its suspension ; the nature of the affection being essentially a cessation of vital movement in the part. Now, among these causes, there are some which will always produce that effect whenever they are applied to the body : there are others that only produce that effect when applied under certain circumstances ; that is, when they are applied to individuals in a particular state of health, or possessing a particular kind of constitution. Thus certain unhealthy states of the constitution, which are called, in common language, and not very inappropriately, *bad habits of body*, are the most powerful predisposing causes of mortification. There are some changes of the general health in an individual, which will lead to the occurrence of mortification, on the application of an immediate exciting cause. There are also certain states of particular parts of the body which are capable of producing a predisposition to mortification, and in which this will occur very easily. For example : it sometimes happens that the arteries of a limb become considerably changed in structure, and are converted into bony tubes,—they become ossified ; and when this extends from the trunk into the minuter ramifications, you cannot wonder that the circulation in the capillary vessels should be disturbed in such a way as to lead to mortification.

The division, then, of predisposing and direct or immediate exciting causes, is as important in mortification as in the consideration of inflammation and other parts of pathology. Among the causes of mortification, we may enumerate

the application of intense cold to the body, the infliction of any serious local injury, the direct interruption of the supply of blood to the part by pressure, or by ligature of the main artery of a limb. In the same way, certain diseases of the heart, particularly those which produce a contraction of the orifice of the aorta, are capable of leading to mortification. Two or three winters ago, there was a patient in the hospital who had a disease of this kind, and mortification of the toes came on in both feet, in consequence of it. I had very little doubt that it was from disease of the valves of the aorta, so as to interrupt the passage of the blood into that vessel; but the body was removed so speedily after death, that I had no opportunity of examining it.

Local pressure on a part in which there are veins and arteries both, such as the stricture in strangulated hernia, or general pressure on a whole limb, particularly when this is in a state of inflammation, leads to mortification. Now it sometimes happens, after serious injury of a limb, that a bandage is applied to it, and the limb which has received such injury swells; and thus the bandage, which was applied with only a proper degree of tightness at the time, forms an excessively firm ligature over the whole of the limb, and in this way it has happened that even the application of a bandage by a surgeon has led to mortification of a limb, and to death. The pressure on a part of the body by a particular position, long kept up,—for instance, when the patient has been kept lying on the back or hip for a long time, by illness,—the portion of the skin on which he rests

will mortify in consequence of that circumstance. Violent inflammation results, which first excites the circulation, and then leads to its suspension. It appears as if, under violent inflammation, the disorder in the circulation was carried sometimes to a pitch which the part is not capable of sustaining; so that the blood stagnates, and, in fact, the part perishes. Generally speaking, a high degree of inflammation is necessary to produce this effect; but sometimes mortification occurs with a degree of inflammation that does not appear to us to be of the very highest kind; and, in fact, we must consider, in relation to this mode of termination, the state both of the part itself, and of the system in which the inflammation takes place. When a part has been in a weak state, a comparatively slight degree of inflammation will be sufficient to produce mortification; and when a part is frost-bitten, the inflammation, although not violent, leads at once to mortification. In the case of an anasarctous limb, when a blister has been applied to it, or when, by scarification, we let out the fluid with which it is distended, it is by no means uncommon for mortification to be produced by these comparatively trivial injuries; and here you must explain mortification not so much by the amount of inflammation produced, as by a comparison of the action with the degree of power in the part. I have already mentioned to you the fact of a change in the state of the arteries, in which they become ossified: now certain other internal causes, the nature and operation of which are unknown to us, are also capable of producing

mortification. Thus, feeding on ergot of rye, or that particular state in which that affection takes place which the French call *ergoté*, and which we call spur-dried, in some way that we cannot explain, predisposes the individual to mortification; so that, in those countries where rye is the ordinary article of food in bad seasons, numerous cases of mortification have occurred, obviously owing to this cause.

Mortification, too, sometimes happens in consequence of *external* causes, the nature and operation of which are equally unknown to us. Thus the contact of the skin with an animal substance, in certain states of decomposition, will produce a gangrenous affection which is called malignant pustule.

Now the various causes of mortification that I have enumerated, might be divided under two heads, *internal* and *external*. To the *internal*, those which are most important, belong, viz., those particularly unhealthy states of the constitution which I have mentioned as giving a predisposition to mortification. The prognosis in this mortification is generally serious. There are some mortifications, indeed, which are small in extent, which are derived simply from *external* causes, and which are unattended with any kind of danger. Thus a person may have mortification of the skin covering the tibia, from a blow upon it, and this is scarcely a dangerous occurrence. The skin covering an aneurism becomes thin when this approaches the surface, and it frequently mortifies; and the same may occur in the skin of an abscess when it points. These are examples of slight mortification from causes

that merely act on a small part of the body, and which are attended with no kind of danger: but in other instances, and especially those in which mortification is referrible to internal causes, and in which we cannot explain the circumstances in the way above alluded to, the prognosis is always very serious. The extent of the change which mortification produces, the depth to which it goes, the importance of the organ which it affects, and the state of the constitution of the individual in whom it occurs, are all points that must be attentively considered, before you venture to pronounce an opinion as to the probable result of any case.

In an affection of which the nature and cause are so dissimilar, in different instances, you will naturally conclude that no one mode of treatment can be appropriate to all cases. Heretofore, attention has been chiefly given to the circumstance of the loss of vitality in the part affected, and the consequences which would attend the loss of vitality in those parts to which mortification seemed to be extending. Hence the idea has arisen, that means should be taken to stimulate and support the vital power in the part so circumstanced; and thus the general rule in mortification has been to employ stimulants, local and general, external and internal,—to give bark, tonics, and cordials, as well as full and nutritious diet. This is by no means right as a general plan of treatment for mortification. Undoubtedly, in particular instances, it is requisite to employ remedies of this character; but we can by no means say that such practice would be right generally.

Again, some have asserted that mortification is always preceded by inflammation, and they have regarded, in the affection, principally the circumstance of its origin, and the inflammatory character of the primary action. It is, perhaps, rather doubtful whether this notion can be completely verified in all cases. It is somewhat doubtful whether distinct signs of inflammation do always precede mortification;—at all events, we should certainly go very far wide of the mark, if we attempted to treat all cases of mortification by antiphlogistic means. You can easily suppose that, in that kind of extreme exhaustion of the vital powers which characterizes mortification, it would be actual madness to employ antiphlogistic treatment.

The general indications of treatment in mortification are, *first*, to prevent its occurrence; *secondly*, to arrest its progress; *thirdly*, to facilitate the separation of the dead parts from the living, and, under favorable circumstances, it is proper to accomplish that separation by surgical operation. These are the general indications which the treatment of mortification presents.

In considering the first, we must bear in mind the *nature of the particular cause of mortification*. Antiphlogistic treatment will prevent the occurrence of mortification, when it is likely to come on in consequence of acute inflammation; but when a part is likely to go into mortification from exposure to cold, a judicious mode of restoring the temperature of the part will be most likely to obviate its occurrence; and so, in each individual instance, the treatment calculated to prevent the occur-

rence must be adopted, from a consideration of the cause which produces the mortification, and of the particular nature of the affection in the part.

It is an important consideration what are the means by which the second indication can be employed,—*that of preventing the progress of the affection*. Heretofore mortification has been regarded too much in the light of putrefaction, decomposition, and decay of the part affected. In the attempt to fall on those means by which its progress might be arrested, investigations have been made to discover those substances which would prevent the progress of putrefaction in dead animal matter; and it has been argued that the same means which would prevent this, would equally arrest the progress of mortification in a living body. Hence the class of what is called *antiseptics*, that is, of substances calculated to prevent putrefaction, has been principally relied on in the external treatment of mortification;—alcohol, camphor, turpentine and bark, are agents that we well know are capable of preserving, for a length of time, dead animal matter, and of preventing those changes that would otherwise take place. Now, however, you are aware that the change which occurs in mortification is not to be considered as identified with putrefaction; and although those substances that I have mentioned would prevent putrefaction in a dead body, it by no means follows that they would prevent a living part that was in a serious state of disorder from going into mortification. With reference to arresting the progress of mortification, we want to discover, not

what substance would preserve the part for a length of time when dead, but what will prevent the part, while still living, from losing its vitality and passing into a state of mortification. Now if you consider that, in a number of instances, the living parts which are attacked by mortification are in a state of high inflammatory action, you will immediately perceive that alcohol, turpentine, camphor, and such substances, cannot be well calculated to prevent the occurrence of mortification; and indeed we may dismiss altogether, from the catalogue of local means, the substances called antiseptic, which are so much recommended by old writers in the treatment of mortification. Their practice arose from an erroneous view of the subject. There are certain substances which have the power of correcting or of destroying the fetor which attends the process of mortification. Charcoal is one: and thus the application of charcoal to a part which has mortified is often advisable, with reference simply to removing the offensive and annoying smell which accompanies the process. For this purpose you usually find that charcoal, whether in cases of mortification or any other kinds of diseased action which are attended with offensive odor, is recommended. But the most powerful agents in removing these unpleasant circumstances in mortification, are the chlorides of soda and lime, which have lately been introduced for that purpose by the French, and have been proposed by them, not only as applicable to mortification, but as disinfecting agents generally,—as means capable of destroying

offensive effluvia,—effluvia that might produce disease under particular circumstances; and I believe they may be said generally to possess that power in a complete degree. Certainly, if you apply to a part of the body which is undergoing the process of mortification, cloths steeped in a solution of chlorides of soda or lime of sufficient strength, you find the unpleasant smell will be completely removed; and if you sprinkle a little of these fluids over the bed-clothes of the patient, the apartment will be rendered perfectly sweet. Now the French have gone further, and said that these substances are not only capable of destroying the offensive effluvia in mortification and other cases, but that they also tend to arrest the progress of mortification; that they stop the diseased action: and if they did so, they would indeed be important remedies. Mr. Alcock has introduced this subject to the notice of English readers in a publication, in which he has collected the information chiefly of the French writers; and he is of opinion that these substances possess a power of acting on the living parts threatened by mortification, so as to check the progress of the disease. In instances where I have seen them used, it has appeared to me that they are to be regarded merely as disinfecting agents; that they are capable of destroying the offensive effluvia connected with the process of mortification, but that they do not possess the power of checking the progress of mortification by their agency on the living parts to which the mortification is extending.

The *internal* treatment must of course be various, according

to the condition of the general symptoms. In cases of acute inflammation, you may have to employ antiphlogistic means ; but in cases where the symptoms have assumed the typhoid character, which I have already spoken of, you must employ remedies of a contrary kind,—bark, stimuli, wine, brandy, and, in fact, all the means, both in diet and medicine, which are capable of supporting the strength of the patient. Under such circumstances, we cannot lay down any one general rule.

I now come, then, to the third indication,—*the means of favoring the separation of the dead parts from the living*. When the mortification is extending, we cannot accurately trace the boundary between the dead and the living parts; they seem to be confounded together ; and, at all events, near the edge of what we conceive to be the dead part, we find that the living part, if it be not actually black or brown, is perhaps of a dark livid tint, and seems just passing into those colors, and the surrounding living parts are perhaps vesicated. It is in this way that the mortification is carried on, affecting fresh parts in succession. But when the mortification has stopped, we then see a defined edge to the dead part, and we observe that the living portion immediately adjoining the edge assumes a brighter red color ; in fact, the boundary of mortification manifestly shows the occurrence of inflammation, and then the absorbents begin to perform the act of separation, and the division between them gradually deepens. Thus the mortified part is separated.

Now in order to favor, by local application, the performance of

this process, in general all we can do is to keep the part at rest and covered by a soft warm poultice : a poultice of bread or linseed meal answers the purpose extremely well. Sometimes it appears that the natural process by which the separation is effected does not go on so favorably as it ought to do ; that the living parts which adjoin the dead are languid ; that they require some stimulation ; and in fact that the separation goes on better under the employment of local stimuli. An old application of this kind consisted in an admixture of yeast, or the grounds of stale beer, with bread or linseed powdered, to make a poultice. This is called a yeast poultice ; and this may be made rather more stimulating, if it be necessary, by an admixture of oatmeal instead of linseed. Yeast is employed in making the poultice instead of water. The dilute nitric acid may be beneficially employed to hasten the extension of the boundary between the dead and the living parts : a solution containing four, six, and from that to ten drops, to the ounce of distilled water, may be used, and lint dipped in it applied to the part. A little yellow basilicon at times will do much to assist the object in view. Balsam of Peru is another kind of application employed on such occasions, and if it does not stimulate the part much, it at least tends considerably to correct the fetor connected with the process of mortification. In some instances, powdered camphor is advantageously strewn on the surface of the parts in which the process of mortification is going on. It is rather a powerful stimulus, and should only be employed where

the parts are particularly languid. These are the means by which we can favor, in the way of local application, the separation of a part which has mortified from the living portion of the limb.

Then as to the question of *removing the dead part, in case a limb is affected by mortification*. The general rule has been not to perform amputation until the boundary between the mortified and the living part is decidedly established. No doubt this is a very wise rule. In instances where an entire limb is the seat of mortification, it will generally be found that the state of the constitution,—of the health at the time,—has had much to do with the occurrence, and with the progress of the affection, and therefore, until the mortification is decidedly arrested, you may suppose that the same disposition to mortify which has given rise to the first occurrence of the complaint, still exists, and consequently, if you amputate a limb under these circumstances, the wound made by the operation will take on the same condition, viz., mortification. Hence has been grounded the rule which has been laid down, not to think of performing amputation in a case of mortification, until the boundary is completely and decidedly established. When the process of mortification has thus come to a natural crisis, you may suppose that a more healthy condition of the frame has occurred, and you may expect that the wound made in amputation will go through the process required for the cure in a favorable way. I have seen an instance in which the toe, for example, has been the seat of mortification, where the condition of the limb has ap-

peared quite favorable, free from anything like disease; where the patient has seemed in a tolerably good healthy state, and where, from the very slow progress of the affection, it has been supposed that the disposition to mortify was worn out: in instances of that kind where amputation has been performed, although the boundary was not clearly established, frequently, I believe I may say generally, the process of mortification has come on in the stump, and the operation has terminated without any advantage. So that in all instances where mortification arises from or is kept up by *internal* causes, by an unsound state of the constitution, you must not make that the time for performing the operation of amputation. But in certain cases of mortification arising from *external* causes, this rule may be relaxed.

II.

A MODERN INVENTION AMONG THE RUINS OF POMPEII.

DR. JOHNSON, of the Medico-Chirurgical Review, having recently returned from a tour on the continent, has enriched his able periodical by some of the results of his medical researches. Among them we offer the following as one of the numerous instances of like character which are daily occurring in medical literature, and convincing us more and more of the great wisdom of him who hath said "there is nothing new under the sun."

In a late excursion to Pompeii, and examination of the various antiquities rescued from the oblivion of two thousand years be-

neath the ashes of Vesuvius, the Editor of this Journal was much interested by the numerous surgical instruments of our Pompeian forefathers collected in the Museum of Naples. His attention was particularly arrested by WEISS's DILATOR, the original of which may there be seen, so precisely similar to that manufactured in the Strand, that, excepting the handles (one of which is in bronze and the other in ivory) it would be extremely difficult to distinguish the ancient from the modern INVENTION. Upon expressing his surprise at this remarkable coincidence, after a lapse of twenty centuries, the Curator of the Studii (the learned Abbé Jorio) observed that it was probably no coincidence, but a consequence. He informed Dr. Johnson that, about ten or twelve years ago, a French gentleman took a memorandum of the instrument in question, and soon afterwards brought out at Paris a modification of the Pompeian Speculum or Dilator. Now Mr. Weiss, while improving on the Parisian invention, did actually stumble upon the plan of the original instrument, so that, if the handles were of the same materials, it would be impossible to say which was the elder. It appears from this that of the two modern inventors, Mr. Weiss is the more original and ingenious. The Parisian disguised the model from which he worked, and made a clumsy instrument. Weiss, in his endeavor to improve on the furtive copy, ascended, unconsciously, to the merits of the original!

Among the Pompeian instruments, there is a trocar exactly of the modern shape and size. The catheters are made of bronze,

and very slightly curved, having an eye on one side, like our modern elastic catheters. There are some of these instruments without any curve whatever,—showing that the ancients knew the practicability of introducing the straight staff.

The ancients seem to have been perfectly well acquainted with the *vapor bath*. At Pompeii, Dr. J. examined one which is on a magnificent scale, and admirably adapted for the purpose of a public bath. From a very fine room, heated by braziers, an entrance leads to the CALIDARIUM, or vapor bath, whose walls, floor, and ceiling, are double, and capable of being filled with vapor from two or three cauldrons, by means of leaden tubes. The vapor is admitted into the room itself from the hollow walls, &c., by small capillary apertures, while at one end of the room issues forth, as from a fountain, a jet of boiling water, diffusing still more vapor through the apartment. Seats are ranged around for those who take the bath, and, when finished, they retire into the room heated with warm air, to dry and clothe themselves.

While observing the ingenuity of the Pompeians, it is impossible not to conclude that they were a most degenerate and depraved people. The figures portrayed in fresco on the walls even of the best houses, exhibit melancholy and disgusting proofs of the horrible depth of infamy, and even bestiality, into which they were sunk! It was high time that, like Sodom and Gomorrah, the cities of Herculaneum and Pompeii should be visited by fire and brimstone, to put a period to their iniquities, and draw the veil

of oblivion over their obscenities! That veil, however, has been removed; and an awful catastrophe has preserved more unequivocal proofs and portraits of the private habits of the Italians, than the pages of their best historians!

The Pompeians have been doubly unfortunate. They were smothered in the ashes of the Vesuvius, and they were destined to be exhumed, eighteen centuries afterwards, as specimens of the degeneracy of their times.

BOSTON, TUESDAY, MAY 18, 1830.

PUERPERAL PERITONITIS.

WE mentioned, in our last number, some researches and observations by Dr. Lee, of London, which go to show that the disease called phlegmasia dolens consists in inflammation of the veins of the affected extremity; and farther, that this inflammation has its origin in the veins of the uterus itself, where it produces the local and general symptoms usually characterised as puerperal peritonitis. Did all the facts known in regard to these two diseases agree perfectly with Dr. Lee's hypothesis, this would deservedly be regarded as one of the greatest discoveries in pathology of which modern times can boast, and a most triumphant proof in favor of the benefit conferred on medical science by the examination of morbid structure. In order to make this clear, however, it ought to be shown that all cases of genuine phlegmasia are preceded by symptoms of uterine inflammation; and secondly, that the latter, when occurring after childbirth, commences with, and is dependent on, an inflammation of the veins of the organ. Neither of these facts, as we apprehend, as yet appears clearly proved from Dr. Lee's inquiries. Among the

appearances presented, however, in the examination of puerperal cases, those found in the veins themselves are by no means the least striking or important. More or less notice of these may be found in the works of many authors who have directed their attention to this subject. Many of these observations are confirmed, and some new ones added, in a late memoir by M. Duges, Professor of Medicine at Montpellier in France. As this distinguished individual neither adopts nor seems to be acquainted with the views advanced by Dr. Lee, the circumstances of coincidence and agreement between them are the more interesting. For the benefit of such of our readers as are interested in pathological research, we shall attempt to present a summary of such of M. Duges' remarks as relate particularly to this branch of the subject.

The fact was long since noticed, that the uterine vessels of those who had fallen victims to puerperal inflammation were found filled with a peculiar purulent secretion. This fluid, from its resemblance in appearance to milk, was at one time actually supposed to be such. Its consistence is about that of cream, and its color varies from white to a yellowish

green. When thrown into water, it disturbs it, but is not diffused through the liquid; the greatest part, after remaining for an instant suspended in flakes, descends to the bottom of the vessel.

Sometimes the purulent matter is found concreted, and resembling the coagulated secretion which adheres to the peritoneum. It is met with, for the most part, in the veins and sinuses of the lateral and superior parts of the uterus; rarely in the lower portion. I have, says M. Duges, frequently traced the course of the vessels; they are almost always ramifications of the ovarian or spermatic veins; but the pus can never be traced beyond that portion of these vessels which traverses the substance of the uterus itself; the cavity of the vascular trunks which open into the iliac veins, or pass up by the side of the lumbar vertebræ, is found filled with blood. Even the veins where the pus is deposited exhibit neither redness, thickening, nor inequality. What then is the cause of the secretion? Are we to attribute it to phlebitis? The state of the vessels themselves seems to forbid this conclusion, though such appears to have been the opinion of a modern writer, whose work unfortunately I have not at present with me. By some authors, indeed, appearances have been remarked which indicated true inflammation of these vessels; such as a thickening of the coats, purulent secretion on the exterior surface, adhering coagula or false membranes on the interior, redness of the surface, and a velvet-like appearance. I have indeed met

with true inflammation of the veins possessing all the above characters, perhaps twelve or fifteen times, in the ovarian veins; I have even seen it extend to the renal veins, and once to the vena cava inferior. In the last case, the peritonitis had ceased, and been succeeded by a febrile state with wellmarked remissions.

If the pus is not formed in the veins themselves, what then is the source from which it is derived? Its frequent coexistence with the morbid secretion upon the peritoneal surface, inclines me to consider it as absorbed from this membrane, and therefore as the consequence, not indeed of a real hysteritis, but of an inflammation of the peritonæum which envelopes the uterus, and perhaps of the cellular membrane. That absorption of pus by the veins is not unfrequent, is abundantly shown by the researches of physiologists. It has been already observed that the purulent matter is generally found in the veins near the exterior uterine surface, and especially in the neighborhood of the fundus. The fact that it is not found in the venous trunks, is accounted for by supposing that, being there mixed with the blood, it ceases to be perceptible. That true hysteritis should be of such rare occurrence, and should be found only as a sequel of peritoneal inflammation, is also not difficult to explain, when we reflect on the facility with which serous membranes inflame, and the slowness of the muscular tissue to take on a similar action. Inflammation of the heart, as is known, is very rare, and that of the stomach is almost wholly limited to

its mucous coat. Now as this membrane is entirely wanting in the puerperal uterus, it follows that all the causes of disease which are accumulated in that organ during parturition, concentrate their influence upon its serous tissue, and render this the seat of those severe diseases which so frequently follow on the termination of this process.

LITHOTRITY.

THIS operation, which has attracted so much attention of late years in France, continues to be performed in that country with undiminished success. Messrs. Civiale and Leroy, who are rivals for the honor of having introduced the operation in its present form, hold, we believe, the first rank for dexterity in performing it. In a paper published in the London Med. and Phys. Journal for November last, in which the superiority of M. Civiale's claims is very strongly advocated, it is stated that the number of cures effected by him have already amounted to one hundred and forty. The following account of a case operated on by Leroy, which is abridged from the description of an eyewitness, will serve to give a clear idea of this Surgeon's mode of proceeding, as well as of the operation in general.

The patient, in this case, was a man of 23 years of age, of tolerable constitution, and who had suffered severely with pain in the bladder for more than three years. He was sounded by MM. Boyer and Roux, of the Hospital de la Charité, where he was, who ascertained the existence of a calculus, which did not appear

very large or of the worst description. The first *essai* was made on the 22d of December, the patient having been prepared by previous bleeding and fomentations, which relieved the pain in the bladder and the general irritation. The *bed* employed was one expressly calculated for the purpose of enabling him to rest without constraint or effort; the head was slightly inclined toward the chest, the thighs somewhat flexed upon the pelvis, the feet supported by wooden projections, and placed in leather slippers. The operator, provided with a syringe of moderate size, and ingeniously constructed for the purpose of being managed by one hand, injected warm water into the bladder, through a large curved sound, terminated like a watering pot. The bladder being thus distended until the patient experienced an urgent desire of evacuating it, the lithotritic instruments were introduced through the urethra, very slowly and cautiously, and, except at the moment of passing the fossa navicularis, almost without pain. Having gained the bladder, the three-branched forceps was slowly protruded, and, after a moment's trial, the stone appeared to be seized; this was confirmed by the percussion perceived to be made on it by the drill, and by the projection of the head of this above the other parts of the apparatus. The bow was then put in motion, and after a few turns, the whole thickness of the stone was perforated. In attempting to turn it within the forceps, the operator lost his hold; but he regained it with great address, by means of slight rotatory movements,

which were almost insensible to the spectators. A new perforation was then made; but the patient, who till then had given no proof of pain or uneasiness, was seized with an irresistible impulse to evacuate the organ; the operation was therefore discontinued, having lasted about fifteen minutes.

The patient found himself remarkably relieved, and slept well the following night. During the succeeding day, however, he suddenly found his meatus closed, and violently irritated by the presence of a foreign body. The ward surgeon ascertained this to be a fragment of calculus, and extracted it by means of a loop of silver wire. A considerable quantity of small fragments was afterwards noticed in the vessel containing his urine.

The second operation took place on the 26th. The introduction of the sound and forceps was more painful, on account of a slight swelling produced at the orifice of the urethra, by the passage of the fragment before mentioned. The parietes of the bladder, also, seemed more sensible than before; a foreign body, however, was readily felt, and grasped by the forceps; but, on attempting to hold it more firmly, it crumbled under the pressure. The same manœuvre was practised three times, with a similar result; the relative situation of the parts of the instrument constantly making it evident that fragments were seized; and their easy fracture rendering the use of the bow unnecessary. The following day the patient was perfectly easy; some lithic gravel and some

small fragments of stone were passed with the urine. On the 2d of January, he was carefully sounded by M. Leroy and by both the Surgeons of the hospital. As no remains of calculus could be detected, and it appeared that he was entirely free from pain, he was pronounced cured, and left the hospital.

It is evidently in cases like the above, in which a calculus is soft and friable, that lithotritry achieves its greatest triumphs; for whatever importance may be attached to the expedition of the cutting process, as compared with the tedious and repeated drillings which are necessary to destroy a large compact body, the comparison results very differently when applied to one capable of so easy a reduction as that which was in this instance the subject of operation. It is sufficient, indeed, to compare the actual sufferings of the patient here mentioned, with those which he must have undergone had lithotomy been practised, to be convinced of the benefit conferred on mankind by the introduction and improvement of the operation. On the other hand, we have to consider that the cases which present the most favorable circumstances for lithotritry, bear but a small proportion to the whole number; and that the hardness of the calculus, which forms one of the most frequent obstacles to its success, is so far from rendering lithotomy more difficult or hazardous, that it tends to ensure both its safety and success. It is farther to be considered, in regard to the pain and the danger of lithotritry, how much depends on the tact and dexterity of

the operator. "Those have a very rude notion of lithotric manœuvres," remarks our ingenious reporter, "who suppose that, in order to find the stone, the operator turns the branches of the forceps roughly and blindly (au hazard) against the parietes of the bladder. Less practised hands might indeed manage in this way; but any one who sees the instruments wielded by M. Leroy, who follows with his eyes and his thoughts, even into the interior of the bladder, that cautious, gentle, and nicely regulated play of the various pieces of the apparatus, must find his prejudices and objections yielding to admiration and confidence." By those, therefore, who have M. Leroy's skill within reach, little persuasion can be needed to induce them to place themselves under his care; while those who are not so fortunate will probably rather submit to the old process, than become the subjects of a doubtful experiment in the hands of a less experienced and less adroit practitioner.

SINGLE-HORNED RHINOCEROS.

In the brig Mars recently arrived from India, came passenger a Rhinoceros,—unicornis of Lin.—aged about fourteen months, and not yet entirely subdued to the control of human will. This is, we believe, the first animal of this description

ever brought to America. There have been but three in England, and the last was carried to that country about forty years ago. It is well known that in size the rhinoceros is exceeded by no animal but the elephant, and that in power, and ferocity when excited, the elephant is much its inferior. We have no room at present to recount the peculiarities of this novel visiter. We can only commend the enterprise of the gentleman who has introduced to the country so remarkable a stranger, and assure our readers that there is no *behemoth* in the case,—the animal is a bona fide Rhinoceros, bearing all the characteristics attributed to that animal by naturalists since the year 1743, previous to which period no accurate description of it was before the public.

Operation of taking up the common Iliac Artery of an Infant.—

An operation has been performed within a few days, in New York city, by Dr. Bushe, Professor of Anatomy in Rutgers College, on a child only two months old, for aneurism of the left labium, which threatened the almost immediate death of the child. As the pulsating tumor was made up of anastomosing branches from the external and internal iliacs, it was necessary to take up the common iliac artery. This was done by the Professor with the greatest safety to the little patient, and without the loss of one ounce of blood. The tumor has shrunk away, and the child is doing well. This operation has never been performed on so young a subject before.

WEEKLY REPORT OF DEATHS IN BOSTON, ENDING APRIL 30.

Date.	Sex.	Age.	Disease.	Date.	Sex.	Age.	Disease.
April 23.	M.	64 yrs	consumption	27.	F.	31 yrs	consumption
24.	F.	73	old age	M.	33		drowned
	M.	20 mo	canker in the bowels	F.	32		consumption
	F.	82	old age	28.	M.	14 d	infantile
25.	F.	69	decline	M.	6 yrs		hydrocephalus
26.	M.	6 w	canker in the bowels	M.	3		convulsions
	F.	52 yrs	consumption	M.	17 mo		unknown
	F.	2 1-2	scald	29.	F.	2 yrs	convulsions
	M.	13 mo	lung fever	30.	F.	8	

Males, 9,—Females, 9. Total, 18.

ADVERTISEMENT.

THE BOOK OF HEALTH.

RICHARDSON, LORD & HOLBROOK, No. 133 Washington St., Boston, have just published **THE BOOK OF HEALTH**; a compendium of Domestic Medicine, deduced from the experience of the most modern practitioners; *entirely divested of technicalities*, and rendered familiar to the general reader; including the mode of treatment for diseases in general. A plan for the management of infants and children; rules for the preservation of health, and for diet, exercise, air, and the preparation of food; remedies in cases of accident; suspended animation; rules for preventing contagion; a *Table of Poisons* most frequently taken, with the symptoms, and directions how to act when medical aid is not at hand. A Domestic Materia Medica, &c. &c. First American, from the second London edition; revised and conformed to the practice of the United States, with additions, by a Fellow of the Massachusetts Medical Society.

Extracts from the Preface to the American Edition.

"Its chief value, and certainly not a trifling one, is the fact that it embodies in a small compass the opinions of some of the most eminent modern physicians and surgeons of Great Britain, such as Drs. Bailey, Clutterbuck and Armstrong, among the former, and Sir Astley Cooper, Mr. Abernethy and Mr. Lawrence, among the latter."

"*The Table of Poisons*, with their attendant symptoms, and the mode of treatment when medical aid is not at hand, it is thought will be peculiarly useful, as it not unfrequently happens where they may have been taken, that no such aid is to be had, and where, if *immediate* remedies be not applied, the person may be irretrievably lost. But if, in such a moment, this table is at hand, the remedy may be at once resorted to, and the patient saved. The same remarks will also apply to the directions given for procedure in cases of *suspended animation*, from drowning, lightning, hanging, &c."

"Great care has been taken throughout not to recommend, in any case, medicines or a course of treatment which may be considered dangerous or doubtful in

the result; on the contrary, cautions are constantly given *against* the use of them, and recommendations, in all cases of doubtful or critical character, of immediate recourse to medical aid."

May 11.

HALLER'S ELEMENTS OF PHYSIOLOGY.

FOR sale—Haller's Elements of Physiology, complete in eight volumes 4to., elegantly bound in calf. Inquire at Cottons and Barnard's, No. 184 Washington Street.

May 4.

MEDICAL PERIODICALS.

JUST received, by **CARTER & HENDEE**,—

The New York Medical Inquirer, and Domestic Magazine, Vol. 1, No. 5. For May, 1830.

The North American Medical and Surgical Journal. Published under the Auspices of the Knappa Lambda Association of the United States.—No. 18. For April, 1830.

NEW MEDICAL BOOKS.

JUST published, and for sale, by **CARTER & HENDEE**,—Malaria; an Essay on the Production and Propagation of this Poison. By **JOHN McCULLOCH**, M.D. F.R.S., &c. &c.

An Essay on the Diseases of the Internal Ear. By **I. A. SAISSY**, M.D. Translated from the French, by **NATHAN R. SMITH**, M.D., Professor of Surgery in the University of Maryland; with a Supplement on Diseases of the External Ear, by the Translator.

Observations on the Utility and Administration of Purgative Medicines, in several Diseases. By **JAMES HAMILTON**, M.D., Fellow of the Royal College of Physicians, &c. &c. From the Fifth Edinburgh Edition.

A TREATISE on the Scrofulous Disease, by **C. G. HUFELAND**, Physician to the King of Prussia, &c., translated from the French of **M. Bousquet**, by **Charles D. Meigs**, M.D., is just received and for sale by **CARTER & HENDEE**.

Sept. 8.

Published weekly, by **JOHN COTTON**, at 184, Washington St. corner of Franklin St., to whom all communications must be addressed, *postpaid*.—Price three dollars per annum, if paid in advance, three dollars and a half if not paid within three months, and four dollars if not paid within the year. The postage for this is the same as for other newspapers.